

Application No. 09/978,528
Response dated April 12, 2005
Reply to Office Action of December 3, 2004

Listing of Claims

The following listing of claims will replace all prior versions and listings of the claims in the application:

Claims 1-22 (canceled).

Claim 23 (previously presented): A semiconductor device comprising:

a semiconductor layer formed on an insulating layer;

a gate conductor formed on the semiconductor layer;

spacers formed on sidewalls of the gate conductor and on the semiconductor layer;

extension regions arranged in the semiconductor layer on both sides of the gate conductor and extending under and contacting the spacers and a portion of the gate conductor, wherein a portion of at least one of the extension regions is exposed at a surface of the semiconductor layer by removing at least a part of one of the spacers;

diffusion regions formed in the semiconductor layer adjacent to the extension regions; and

a metal layer formed at least in the exposed portion of the extension region, the metal layer contacting the semiconductor layer and the exposed portion of the extension region.

Claim 24 (previously presented): The device according to claim 23, wherein the extension regions are lower doped than the diffusion regions.

Claim 25 (previously presented): The device according to claim 23, wherein the metal layer contacts at least one of the diffusion regions.

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Claim 26 (canceled).

Claim 27 (previously presented): The device according to claim 23, wherein a portion of each extension region is exposed on both sides of the gate conductor at the surface of the semiconductor layer by removing at least a portion of each spacer and the metal layer is formed in the exposed portions of the extension regions.

Claim 28 (previously presented): The device according to claim 23, wherein the extension regions extend further under the spacers than the diffusion regions.

Claim 29 (previously presented): The device according to claim 23, wherein the metal layer and the exposed portion of the extension region form a Schottky diode.

Claim 30 (previously presented): The device according to claim 29, wherein the metal layer extends into the semiconductor layer.

Claim 31 (previously presented): The device according to claim 30, wherein the metal layer extends into a portion of the semiconductor layer below the extension regions.

Claims 32-33 (canceled).

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Claim 34 (previously presented): An integrated circuit disposed on an SOI substrate having a body region, comprising:

a transistor having

a source diffusion region,

a gate formed over the body region,

a first sidewall spacer disposed on a sidewall of the gate abutting the source diffusion region,

a drain diffusion region,

a second sidewall spacer disposed on a sidewall of the gate abutting the drain diffusion region, wherein the first sidewall spacer is thinner than the second sidewall spacer, and

extension regions provided under and contacting the first and second sidewall spacers, the extension regions contacting the gate and extending further under the gate than the source and drain diffusion regions, wherein a portion of at least one of the extension regions is exposed at a surface of the body region by removing at least a part of one of the first and second sidewall spacers; and

a conductor formed at least in the exposed portion of the extension region, the conductor being in contact with the exposed portion of the extension region and at least a portion of the source diffusion region to form a Schottky diode.

Claim 35 (previously presented): The device according to claim 34 wherein the conductor contacts the body region.

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Amendments to the Drawings

The attached annotated sheets, attached as Exhibit A herewith, include the original drawing sheet containing Figs. 2-7, with changes to these drawings shown in red ink. The changes are extending the lead line for reference numeral "14" in Fig. 5, and adding reference numeral "17" to Figs. 6 and 7. A replacement drawing sheet that includes Figs. 2-7 is also attached as Exhibit A. This attached replacement sheet replaces the original drawing sheet including Figs. 2-7.